

PLANNING FOR A PERSONNEL ACCOUNTABILITY SYSTEM

STRATEGIC MANAGEMENT OF CHANGE

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ABSTRACT

It is imperative for progressive fire departments to have an effective system in place to track their personnel at any incident. Each department should have a system that begins tracking their members upon arrival at the station, or at the scene, and continuing through operations at an incident. A department cannot have an effective personnel accountability system if it does not operate under the framework of an overall incident command system. Proper use of the incident command system, including the accountability system, will reduce freelancing, thus reducing firefighter injuries and fatalities.

The problem was this department did not have an effective department wide policy with regard to accountability. The purpose of this research paper was to develop a plan to develop a department wide policy adopting a personnel accountability system (PAS). This procedure was accomplished first, through literature review, by having examined what current PASs other departments were using. Then, a system was chosen that could be easily integrated into our incident command system. Second, by developing a roadmap to transition us from the way we were currently operating, to the implementation time of the new department wide policy. This was done by using Phase II, *Planning* (SMOC, 1996) of the Change Management Model (CMM) as a tool to promote a change in our system. Setting and evaluating the goals and objectives was the most critical task in this phase. They must match the envisioned change and be consistent with organizational change requirements.

The evaluative research method was used for this project to analyze and evaluate the current system, then to recommend improvements for inclusion in the new policy. The research questions were:

1. What are the needed components of a personnel accountability system?
2. What are the different types of PASs being used today?

3. Can these systems be modified to fit our departmental needs?
4. What problems are associated with accountability systems?

By answering these four questions, a personnel accountability system was identified for this department to adopt and consequently, included in the plan to develop the department wide policy.

Fire service managers must always consider safety for its firefighters and one progressive step in that direction would be to adopt an effective PAS. The development of such a system may begin by reviewing NFPA guidelines. These guidelines recommend that departments work within the incident command system. It is necessary and the PAS will not work without it. Whether your department is volunteer, combination, or career, the framework to build the system is there. Modifications to the guidelines may be reviewed by researching the many systems that currently exist and adapting a system, or parts of systems, to fit your specific needs.

Simply adopting a system and developing a policy will not offer a complete fireground accountability model. It must be practiced and critiqued until it becomes a routine way of life. Every member must participate for the system to be effective. Our role as instructors and officers is to encourage participation at every level. Fire service managers must be accountable to those that account to us. Management has an obligation to provide for the safety of its employees.

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INTRODUCTION

The fire service is a dangerous profession. The flags at the National Fire Academy are constantly flying at half-mast. The flags are an ever present reminder that many firefighters across the country are needlessly killed or injured. The fire service should do all it can to not allow unsafe conditions to exist. The leaders in the fire service have an obligation to provide the highest level of service possible to allow them to do their jobs safely and efficiently.

Firefighter fatalities and injuries are of the utmost concern for any fire service organization. In the rush to set up for battling structure fires, it is difficult, yet imperative, to use a system for managing that incident. Generally, fire departments utilize a common incident command system (ICS). Using the ICS is a necessity, especially if safety is an issue. The common ICS will have as a component, some type of accountability system. "Every member operating in a potentially dangerous area should be tracked by an effective accountability system" (Routley, Bush and Stern, 1996, p. 52). Proper use of the ICS, including the accountability system, will reduce freelancing, thus reducing firefighter injuries and fatalities. Freelancing, or performing without specific task assignments, is an ingredient that undermines the safety aspect of running almost any operation. "There are many trends in the fire service today. Accountability is one of them....Accountability is not just an in-fashion term, it's an essential tool for incident commanders" (Hewitt, 1993, p.13).

The problem is, this department does not have an effective department wide policy with regard to accountability. The purpose of this research paper was to develop a plan to develop a department wide policy adopting a personnel accountability system (PAS). This would be accomplished by

determining, through literature review, what is the current trend with respect to personnel accountability. Second, by using Phase II, *Planning* (SMOC, 1996) of the Change Management Model (CMM) as a tool to promote a change in our system. The evaluative research method was used for this project to analyze and evaluate the current system, then to recommend improvements for inclusion in the new policy.

The research questions were:

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BACKGROUND AND SIGNIFICANCE

When the Beaumont Fire/Rescue Services adopted the ICS and made it standard operating procedure (SOP) (300.4, 1992) it helped our department coordinate all types of incidents within a manageable span of control. Part of its purpose was to promote safety. Our department, however, has been very lenient toward the proper use of a verifiable PAS. A reason for this may have been the fact that the SOP scarcely mentioned personnel accountability. Another reason could have been that in the past, locally, there have been no serious firefighter injuries or deaths as a result of not using the accountability system properly. Also, upper management has not been effective in promoting, training

and supporting accountability. Consequently, this department's training, since the inception of ICS, has focused primarily with the overall general objectives of the ICS. Not very much emphasis has been placed on the accountability component. Although each of the members were issued individual name tags, no formal or intensive training took place to teach the members how to use those tags.

Beaumont, Texas, is a diversified city whose major economy comes from numerous businesses, that include a heavy industrial population with petrochemical refineries and chemical plants. The downtown district has several high rise buildings. Residential areas range from the historic downtown district to the typical new larger houses located in the golfing communities. The range includes a few economically depressed areas and numerous wood framed and brick veneer houses. Businesses and warehouses, including malls and retail shops, are scattered throughout the entire city. There are also numerous apartment complexes, as well as, nursing homes and assisted living care centers.

The city is protected by eleven fire stations that are strategically dispersed, which offer efficient response times. Beaumont Fire/Rescue has 234 full-time paid members and serves a population of 115,000, covering 78 square miles. The suppression division has 210 members divided into three shifts, A, B and C. The work schedule for the suppression shifts consist of 24 hours on-duty and 48 hours off. What has evolved since the inception of the ICS and PAS is that each shift primarily uses the accountability system as they see fit. The leaders and supervisors of each shift have taken it upon themselves to see that some facet of accountability has been passed on to the subordinates. There is no department wide policy that outlines each step of a successful accountability system. If this trend were to continue, unnecessary injury or death might occur to our members.

Beaumont Fire/Rescue is also a member of a local mutual aid association. At this writing, the association does not have an effective accountability system to account for the various members that may work an incident together. There is discussion to do so. If the association were to develop an accountability system, our department would be better able to adapt to it with its own consistent accountability system in place. The implementation and proper use of a consistent, department wide accountability system cannot do anything but help this organization.

What is occurring presently is that each shift can account for who is at the scene, however, knowing where each individual may be at any given moment or calling for a report to determine if all personnel are present and accounted for, would take an extensive amount of time. Using our present system, it probably would not even be possible. Hewitt (1993) said that many believed implementing the ICS and its disciplined use would reduce firefighter fatalities by almost 25%, “But what good is all that, really, if we can’t find everyone (and in a timely fashion) when something goes wrong?” (p. 12). If conditions at an emergency incident were to deteriorate, an effective department wide policy dealing with accountability would assist us in finding all personnel, and in a short period of time.

One of the objectives of this research project was to create a plan, to develop a department wide policy, to provide consistency with regard to accountability. The future impact of this study and eventual implementation of a department wide policy will result in a safer operation on our fireground. “However, we do know that having an emergency service system built on accountability and responsibility will reduce the risk of turning a bright career into a horrible nightmare” (Shouldis, 1997, p. 136). Firefighters should feel somewhat more comfortable knowing that their welfare is of great

importance to upper management. Gerner and Schaper (1997) state, “Your firefighters will appreciate that you are looking out for their safety” (p. 1). “The incident commander must automatically integrate fire fighter safety and survival into the regular command functions” National Fire Protection Association (NFPA) Standard 1500 (1992, p. 38). Consequently, management has an obligation to provide for the safety of its employees.

This research project is directly related to the Executive Fire Officer Program (EFOP) second year Strategic Management of Change (SMOC) course being taught at the National Fire Academy in Emmitsburg, Maryland. The specific content area required to bring about this change relates to completing Phase II, *Planning*, of the Change Management Model (SMOC, 1996). This phase is designed to be used to develop plans to respond to determined change requirements. The present accountability system is not sufficient, therefore, as the fire chief of this department, I am obligated to convince and encourage our supervisors and firefighters that change is necessary. Some of the influence and leadership skills that were taught in this class will help in bringing about the transition. Using the CMM will assist in enabling our department in understanding and accepting the change.

LITERATURE REVIEW

This literature review began by using the learning resource center, located on the campus of the National Fire Academy. It was evident by the many articles related to this subject, that accountability was, and continues to be, a popular issue. The journals and magazine articles referenced in this report were those that were most current. There were also several research projects dealing with the accountability systems that were reviewed for this research.

More information on PASs was gathered from the offices of the Beaumont Fire/Rescue Service. Some of the information came from the NFPA standards. Specifically, the 1500 *Standard for Firefighter Occupational Safety and Health*, 1992 edition. Also, the 1561 *Standard for the Fireground Incident Management System*, 1995 edition. Additional information was gathered through books, other departments' standard operating procedures, technical reports, newsletters, mutual aid meetings and personal interviews.

There are thousands of fire departments across our nation. "The United States currently depends on approximately 1.2 million paid and volunteer firefighters to protect its citizens and property from losses caused by fire" (N. Stout, personal communication, October 13, 1998). Standards that regulate these departments may be local, state, or federal. The federal standards with regard to PASs, have basic recommendations or requirements. The issue for this report is not to determine if a PAS is necessary. It is clear from the NFPA standards, specifically 1500 and 1561, along with the multitude of magazine articles, and the many research papers dealing with this subject, that the ICS must include a PAS.

It was not until NFPA 1500, Fire Department Occupational Safety and Health Program was published in 1987 that the fire service formally addressed the subject of accountability nationwide. The standard emphasizes the importance of having a personnel accountability system in place on the fireground. If chiefs fail to maintain accountability on a consistent and methodical basis, they may later face tragedy and perhaps charges of gross negligence. (Jarboe, 1994, p. 39)

Jakubowski (1998) stated, “It is crucial for incident managers to have some type of system in place to track personnel operating at an incident scene” (p. 43). “Every member operating in a potentially dangerous area should be tracked by an effective accountability system. (An effective accountability system actually keeps track if [sic] the individuals, not just the tags that represent them)” (Routley, Bush and Stern, 1996, p. 134). Howes (1997) stated, “Although ICS is great at showing commanders the big picture, personnel accountability is needed to fully manage an incident” (p. 51). Gray (1996) stated in his executive fire officer program research paper, “All fire service organizations need to install and use some type of fire ground accountability system to help reduce unnecessary fire ground deaths and injuries” (p. iii). “As the concern for fireground safety continues to grow, more and more fire departments are reviewing the manner in which they keep track of their firefighters on the fireground - accountability” (Carlson, 1992, p. 10). The literature review, therefore, was used to determine the NFPA recommendations and the different types of current systems available, along with the various components of those systems.

Before attempting to change the present accountability system being used by our organization, it is important to determine what the national standard recommends. It is the intent of the author that the new policy for this organization is compliant with the standards that pertain to accountability. The sections with regard to accountability in NFPA standard 1500 (1992) are:

6-3.1 The fire department shall establish written standard operating procedures for a personnel accountability system in accordance with section 4-3 of NFPA 1561...and that provides for the tracking and inventory of all members operating at an emergency incident.

6-3.1.1 The system shall consider local conditions and characteristics in establishing the requirements of the personnel accountability system.

6-3.2 It shall be the responsibility of all members operating at an emergency incident to actively participate in the personnel accountability system.

6-3.3 The incident commander shall be responsible for overall personnel accountability for the incident. The incident commander shall initiate an accountability and inventory worksheet at the very beginning of operations and shall maintain that system throughout operations.

6-3.3.1 The incident commander shall maintain an awareness of the location and function of all companies and sections.

6-3.3.2 Sector officers shall directly supervise and account for the companies operating in that sector.

6-3.3.3 Company officers shall maintain an ongoing awareness of the location and condition of all company members.

6-3.3.4 Where assigned as a company, members shall be responsible to remain under the supervision of their assigned company officer.

6-3.3.5 Members shall be responsible to follow personnel accountability system procedures.

6-3.4 The personnel accountability system shall be used at all incidents.

6-3.5 The fire department shall develop the system components required to make the

personnel accountability system effective.

6-3.6 The standard operating procedures shall provide the use of additional accountability officers based on the size, complexity, or needs of the incident. These accountability officers shall work with the incident commander and sector officers to assist in the ongoing tracking and accountability of members.

Although section 6-3.1 (above) of NFPA 1500 (1992) refers to a “Section 4-3 of NFPA 1561”, there is no section 4-3. The section of NFPA 1561 (1995) that deals with personnel accountability may be found in Section 2-6. They are:

2-6.1 The incident management system shall provide for personnel accountability at the incident scene.

2-6.2 The fire department shall adopt and routinely use a system to maintain accountability for all personnel assigned to the incident. This system shall provide a rapid accounting of all personnel at the incident scene.

2-6.3 All supervisors shall maintain a constant awareness of the position and function of all personnel assigned to operate under their supervision. This awareness shall serve as the basic means of accountability that shall be required for operational safety.

2-6.3.1 The incident management system shall maintain accountability for the location and function of each company or unit at the scene of the incident. Personnel who respond to the incident on fire apparatus shall be identified by a system that provides an accurate accounting of those personnel actually responding to the scene with each company or on

apparatus.

2-6.3.2 Personnel who arrive at the scene of the incident by means other than fire apparatus shall be identified by a system that accounts for their presence and their assignment at the incident scene.

2-6.4 The system shall include a specific means to identify and keep track of personnel entering and leaving hazardous areas, such as confined spaces or areas where special protective equipment is required.

2-6.5 The incident management system shall include a standard operating guideline to evacuate personnel from an area where an imminent hazard condition is found to exist and to account for their safety. This guidance will include a method to notify immediately all personnel in the affected area by means of audible warning devices, and by radio signals in accordance with the requirements specified in 2-2-4.

Choosing a System

Although NFPA 1500 and 1561 recommend an accountability system be in place, the standards leave the discretion of choosing any particular system to the fire department. Section 6-3.5 of NFPA 1500 states, “The fire department will develop the system components required to make the personnel accountability system effective” (1992). Many different methods are being used to track firefighters at incidents. Carlson (1992) states, “A system can be devised using paper records, magnetic or Velcro name strips, tags, ‘passports,’ bar codes, or a combination of these methods” (p. 10). Howes (1997) wrote, “There are many different personnel accountability systems available in this

country, some of which are highly sophisticated, while others are simple and very low-tech. Usually, the cost is in direct proportion to the technology” (p. 52). “There are bars and cards, rings and tags, and status boards, just to name a few....Some of the systems are cumbersome and hard to implement” (Schaper and Gerner, 1996, p. 43). “Existing systems range from using name tags which are delivered to the Incident Commander or are left with appropriate fire apparatus, to actual tracking devices that sound an alarm if a firefighter is ‘down’” (Bachtler and Brennan, 1995, p. 920).

Our department currently uses plastic name tags. Each member has been issued one plastic tag that has a metal ring with a snap fastener attached to it. The firefighters have blue tags and the officers have red ones. The red tags are fastened to a D-ring which can accommodate the blue tags. At a large scale incident, the incident commander (IC) may call for everyone’s tags and end up with a large bundle of name tags, which will indicate who is at the incident, but not where they are located. “When tags are used in an attempt to track the location of personnel and their safety, experience has shown that the system becomes cumbersome” (Gerner and Schaper, 1997, p. 10). Jarboe says, “Unfortunately, some chiefs believe that a procedure for identifying who is on the scene is a total personnel accountability system. They are only one-third correct” (1994, p. 40). Additionally, this system is not adequate for a rapid determination of who is at the scene. “The ability to rapidly identify the missing and what area they were working in can mean the difference between a successful rescue or a recovery operation” (Howes, 1997, p.50).

The Current System

The PAS system as recorded in Beaumont Fire/Rescue standard operating procedure (1992, p.

11) is very general. It simply states that supervisors shall maintain a constant awareness of all members that are assigned to operate under them. All team members are to be aware of their fellow team members. It also allows the IC to collect all identification tags or get the supervisors to collect the tags if he/she (IC) deems it necessary. If the supervisor enters a hazard area, the tags are to be passed to the next level supervisor. Additionally, it states that the purpose of the personnel identification system is to provide rapid determination if any members are missing due to an unplanned event.

The procedure does not indicate how the reporting is to be done, nor does the accountability section address the evacuation procedure should one be necessary. The only other item mentioned in the procedure is that the company officers will insure their members have their tags fastened to the exterior of their bunker coats at the start of each shift. This is all that is written in our procedures with regard to the accountability system.

Levels of Accountability

Most of the accountability systems researched for this project have different levels of accountability. The levels may be developed to adapt to the local conditions and characteristics of the individual department. Jakubowski states, “The basic systems use a single tag, with the member required to leave it at the position on the apparatus they are assigned to, with their apparatus officer or at the command post when they arrive at the incident” (1998, p. 43). The member arriving for duty should place his or her accountability tag on the apparatus in a specific location. Conversely, it must be taken off at the end of a shift. If the tags mount on some type of board, that board becomes the

passport. “These lists of individuals working together as a company generally are completed prior to an alarm, but they could be developed as firefighters arrive on the scene” (Carlson, 1992, p. 10). “In retrospect, our simple ‘riding list’ with each company officer and on the dashboard of each apparatus paid great dividends when the mode of the operation changed from offensive to defensive” (Shouldis, 1997, p. 134). In some systems, the passport is also called a unit pad. This would be level one accountability.

When an incident begins, one system recommends command should notify dispatch that all units working the incident are at level two accountability. “This verbal prompt lets officers know that they should report to command with their unit pads in hand” (Howes, 1997, p. 52). When these passports or pads are given to command, they may be placed on a status board and given an assignment by command. Command then can make note on that board, next to the passport, of the assignment given. This will allow the IC to know at a glance what sector each unit is assigned to, as well as, each member working with that unit.

A level three accountability may be called if a condition warrants closer control of crew assignments. At this level, some type of entry point would be established. The IC would then assign a sector officer to account for the crews entering the checkpoint. “Point of entry control officers must be strategically placed to monitor activities, crews’ movements, and situational conditions” (Shouldis, 1997, p. 134). An additional tag, other than the one on the passport, would be required here. The sector officer would place it on a status board at the checkpoint. Each member’s gear should be checked at this point. The amount of air in the breathing apparatus should be noted and the entry time

marked by the sector officer. When each member comes out of the critical area, the amount of air and time should again be noted. “As the IC, are you sure your firefighters can find their way out of the fire building with the remaining air in their tanks” (Schaper and Gerner, 1996, p. 44)?

Modifications

Variations among the many systems abound, but choosing the components to integrate into your system should follow the basic guidelines of the NFPA standards. “Although NFPA calls for an accountability system in its 1500 Standard...it does not specify what type of system to use” (Schaper and Gerner, 1996, p. 42). The officers and firefighters of our department are accustomed to working within the structure of incident command. Having adopted the ICS in 1992, our department should easily be able to integrate a better accountability system than what is currently being used. “It’s impossible to effectively operate a personnel tracking system (or any other complex dynamic component of a system) without the overall structure of incident command” (Compton, 1998, p. 16). “Consider the existing incident command system (ICS) operations. If your department already has strong relationships between crews and company officers, company officers and sector officers, and sector officers and incident commanders, you are almost there” (Jakubowski, 1998, p. 43).

Problems with Accountability

For some time now, accountability system criteria have been made into standards. Most fire organizations have adopted some type of system to account for their personnel. Although there are many good systems that are being used by many fire and emergency organizations, problems do exist.

One of the major problems is that some members operate outside of the organizational structure.

“Freelancing, the opposite of accountability, has plagued the fire service for countless years. It has been and continues to be very difficult for the IC to ensure the overall accountability of firefighters on the fireground” (Jarboe, 1994, p. 39). “Your members must believe in and participate in the system....Free-lancing cannot be tolerated” (Jakubowski, 1998, p. 44). All personnel should be doing what they are trained to do. We should all be responsible for our actions. Compton (1998) states, “We know what we are to do in certain situations and we know we’re not suppose [sic] to be freelancing....Operate within the agreed-upon structure” (p. 17). Jakubowski says, “In some cases, perimeter control is a factor, and it will become important to keep those who don’t belong out of the area, while allowing for those who need to be there” (1998, p. 45).

Jarboe writes of common fireground mistakes and includes, “If chiefs fail to maintain accountability on a consistent and methodical basis, they may later face tragedy and perhaps charges of gross negligence” (1994, p. 39). Trying to implement a change in the accountability system may likely create resistance to that change. “The idea of decentralizing command went completely against all the precepts we had learned about command and control, and I was one of its most vocal opponents” (Howes, 1997, pp. 54-55). “Periodically, entry control officers will be tempted to enter interior work zones or become involved in hands-on tasks, but they must resist the temptation” (Shouldis, 1997, p. 134).

Lost or misplaced tags could also present a problem. “If responding, firefighters should be sure that their name tags or other identification devices are with their protective clothing or in the assigned

location on the apparatus” (Carlson, 1992, p. 11). “For this system to work, it’s imperative that all firefighters accept personal responsibility for the disposition of their [personnel accountability tags] PATS” (Howes, 1997, p. 52). Gerner and Schaper (1997) state, “If your accountability system relies on numerous personnel to function, at the expense of personnel to fight the fire, you will not have a successful firefighting operation” (p. 5). Ward (1992) stresses the importance of filling out fireground work sheets as quickly as possible when an incident begins, “Few departments have made firefighter accountability an integral part of those first minutes of fireground activity....Fireground mishaps may be prevented if incident command accountability is established during those first chaotic minutes” (p. 15).

Training

It should go without saying that training is probably the most crucial part of any kind of operation. Every firefighter, in the accountability chain, has to know what his/her role is, in order for the system to be effective. Compton (1998) states, “Practice complete fireground accountability within a strong command system on every incident. Critique it every time and you will achieve safer, more effective operations” (p. 29). “The system, including accomplishing PARs, must be integrated into training exercises to ensure maximum familiarity” (Jakubowski, 1998, p. 45).

When Palm Beach County Fire-Rescue adopted their accountability system, they determined that only one person would deliver the training. This was not only to their troops, but to all the mutual aid organizations in a county wide system. Howes (1997) stated, “Our goal was to present a comprehensive, real-world application of the personnel accountability system while showing how it

works in conjunction with our incident command system” (p. 54).

PROCEDURES

The first step taken to conduct this research, after determining which subject matter to dedicate the project to, was to gather current data in relation to the topic. The information sought was to determine what was being recorded currently. Limitations were self imposed. The researcher decided to limit material from 1992 to present. In this manner, the author could get a reasonable idea of what other departments were presently doing with regard to personnel accountability.

The bulk of this information was to be used for the literature review section of this document. Some time was spent in the Learning Resource Center (LRC), located on campus at the National Fire Academy in Emmitsburg, Maryland. There was a considerable amount of information on the topic regarding personnel accountability systems. Some copies were made of current articles in journals, and relative sections of various executive fire officer program research papers. This data was collected in May, 1998.

Additional information was procured by use of other journals and books located in the administrative offices of Beaumont Fire/Rescue Services in Beaumont, Texas. The National Fire Protection Association standards were among the books available in our library. The NFPA standards proved to be a valuable resource. During the ensuing months, the author constantly scanned newly released publications for the most updated information on the topic. Finally, subsequent information was, once more, retrieved from the LRC by use of the internet. This proved to be very helpful in determining volume and issue numbers that were overlooked during the first visit to the LRC. In reading

through all of the information, pertinent details were highlighted for ease in retrieving the information at a later time.

Three personal interviews were also conducted that contributed to this research. One interview was conducted August 14, 1998, during the International Association of Fire Chief's conference held in Louisville, Kentucky. I conducted a personal interview with Assistant Chief of Operations, Donald Widing, with the West Palm Beach Fire Department, West Palm Beach, Florida. Chief Widing served as the Committee Coordinator in developing and implementing their accountability system. The purpose of the interview was to find out if their relatively new accountability system was satisfactory to management and to the members using it. Howes, also from Palm Beach County, stated, "We've been using this new system for over a year. During this time, we've had ample opportunity to test it on many different types of incidents, including mutual aid responses" (1997, p. 55).

The other two interviews were conducted with Beaumont Fire/Rescue personnel. One administrative level person and one senior level, driver/operator member of the suppression division was interviewed. The driver/operator was chosen at random to get a sampling of what a typical member of this department might contribute. The administrative person was chosen because he is well liked and respected by the personnel and his support, or non support, would play a key role in the proposed change.

The second major step of this project was to develop a plan to develop a department wide policy with regard to the personnel accountability system that was currently being used. The plan was to use the six steps of the "*Planning*", Phase II, Change Management Model (SMOC, 1996). The six

steps were:

1. Systematically Examine the Forces For and Against the Change
2. Select Personnel to Develop a Vision of the Organizational Change
3. Envision the Organizational Change to be Implemented
4. Set and Evaluate Target Goals and Objectives of the Envisioned Change
5. Assess and Select the Method(s) of Change to be Employed
6. Assess and Select Techniques to Promote the Change

In an effort to keep the information current, the author was limited the scope of the research to journals, reports, and articles dated on or after 1992. Another limitation was the personal interviews. They were conducted with only three personnel, which may have given an arbitrary viewpoint to the questions posed.

Definition of Terms

1. Personnel Accountability Tag (PAT) - An identification tag issued to all members. Information on the tag may include the member's name and be color-coded to identify level of rank.
2. Passport - A pad that may be used to fasten a crew's personnel accountability tags. The passport may be color-coded to signify different types of apparatus. The passport may be kept in a designated area in the cab of a vehicle and as an incident escalates, transferred to an accountability officer or accountability board. A passport may also be called a unit pad.
3. Accountability Board - Used for collecting and organizing passports. May be located at a command post, with group or sector supervisors, and at entry points. Next to the passport may be an area for the

accountability officer to write the assigned task of each crew. Accountability board may also be called a status board.

4. Personnel Accountability Report (PAR) - A rapid accounting of personnel assigned to an emergency incident.

5. Accountability Officers - May be driver/operators, sector officers, or personnel specifically assigned to sectors to serve as accountability officers for the sector officer or IC.

RESULTS

The literature review was predictable and was able to answer the research questions. The first research question that was explored for the initial step of this report was: What are the needed components of a personnel accountability system? The basic components are outlined under Section 2-6 of NFPA 1561, *Standard on Fire Department Incident Management System* (1995). It states that the accountability system will be a part of the ICS. This system shall provide a rapid accounting of all personnel at the scene. All supervisors shall maintain a constant awareness of the personnel assigned to them. The incident management system will maintain accountability for the location and function of each company or unit at the scene of the incident, which includes personnel who arrive at the scene by means other than fire apparatus. The system will also include a specific means to identify and track personnel entering and leaving hazardous areas. The final basic component is that the system shall include a standard guideline to evacuate personnel from an area where an imminent hazard is found to exist and to account for their safety.

One must be aware of the other basic recommendations of NFPA 1500, *Fire Department*

Standard on Occupational Safety and Health (1992). It recommends that the fire department will establish a written standard operating procedure for a PAS. The fire department will consider local conditions and characteristics in establishing the PAS. All members have to actively participate in the PAS. The IC shall initiate an accountability and inventory worksheet at the beginning of operations and maintain that system throughout operations. This may be accomplished in many ways. Some of these ways may include tactical worksheets, command boards, apparatus passports or riding lists, company personnel boards, etc. Other recommendations reiterate those mentioned in NFPA 1561. Most of all the PASs reviewed in the literature review designed their systems using the NFPA recommendations for the basic components.

The second research question asked was: What are the different types of PASs being used today? The literature review revealed that many systems have been put into use. Several systems use components of more than one system, which have been modified to suit the needs of the particular department. The major systems in use were basically divided into three categories: (a) tag system, where nametags are used; (b) passport system, where tags are placed on pads to identify companies; and (c) bar code system, where tags that are bar coded are entered into laptop computers to track personnel and assignments. Carlson (1992) states, “A system can be devised using paper records, magnetic or Velcro® name strips, tags, ‘passports,’ bar codes, or a combination of these methods” (p. 10). Howes (1997) writes, “There are many different personnel accountability systems available in this country, some of which are highly sophisticated, while others are simple and very low-tech. Usually, the cost is in direct proportion to the technology” (p. 52). “There are bars and cards, rings and tags, and

status boards, just to name a few....Some of the systems are cumbersome and hard to implement” (Schaper and Gerner, 1996, p. 43).

The third research question posed was: Can these systems be modified to fit our departmental needs? Section 6-3.5 of NFPA 1500 states, “The fire department shall develop the system components required to make the personnel accountability system effective” (1992). Howes (1997) stated, “We chose to use components of several good systems already in use, modifying them for our particular needs” (p. 52). Hewitt (1993), Fire Chief of Roseville Fire Department, adapted a system to their department from a system developed by the Phoenix Fire Department. He went on to say, “It is incumbent upon the chief to make the system easy to use” (p. 12). Jakubowski (1998) reviewed different accountability systems and indicated, “Variations have the unit chauffeur collecting the tags from around the apparatus as soon as they can, and either maintaining the personnel list or delivering it to the command post or safety officer” (p. 43).

Davis (1998) remarked, “When developing its accountability system, CHFD [Colchester Hayward Fire Department, Connecticut] had to deal with personnel who might respond to the scene on apparatus or in private vehicles” (p. 36). Finally, NFPA 1500 (1992) recommends in Section 6, that the system shall consider local conditions and characteristics in establishing the requirements of the personnel accountability system, which indicates modification is permissible.

The fourth and final research question was: What problems are associated with accountability systems? It was noted that almost every system reviewed encountered some level of problem. The problems ranged from firefighters losing tags to the IC performing his responsibility. “When tags are

used in an attempt to track the location of personnel and their safety, experience has shown that the system becomes cumbersome” (Gerner and Schaper, 1997, p. 10). Jarboe says, “Unfortunately, some chiefs believe that a procedure for identifying who is on the scene is a total personnel accountability system. They are only one-third correct” (1994, p. 40).

“Freelancing, the opposite of accountability, has plagued the fire service for countless years. It has been and continues to be very difficult for the IC to ensure the overall accountability of firefighters on the fireground” (Jarboe, 1994, p. 39). Jakubowski stated, “In some cases, perimeter control is a factor, and it will become important to keep those who don’t belong out of the area, while allowing for those who need to be there” (1998, p. 45).

“For this system to work, it’s imperative that all firefighters accept personal responsibility for the disposition of their [personnel accountability tags] PATS” (Howes, 1997, p. 52). Gerner and Schaper (1997) state, “If your accountability system relies on numerous personnel to function, at the expense of personnel to fight the fire, you will not have a successful firefighting operation” (p. 5). Ward (1992) stresses the importance of filling out fireground work sheets as quickly as possible when an incident begins, “Few departments have made firefighter accountability an integral part of those first minutes of fireground activity....Fireground mishaps may be prevented if incident command accountability is established during those first chaotic minutes” (p. 15).

A personal interview was conducted with an Assistant Chief Don Widing of the West Palm Beach Fire Department. I asked him, “What were the things you looked for in developing your system?” Additionally, “What effects has it had with regard to your members and the incident

management system?” After extensive research, his department adopted and implemented the passport system. This system was not only adopted by his department, but was agreed to and accepted by all the departments in the entire county.

In responding to the first question, D.P. Widing commented that he wanted something that would be compliant with the NFPA standards, of low cost, as the system needed to be integrated county wide, and simple enough that it would meet low resistance because of the number of personnel that would use the system. In answering the second question, he said, “The personnel were somewhat resistive at first, but after training and routinely using the system, they wouldn’t think of operating any other way” (personal communication, August 14, 1998).

The second and third personal interview was with the assistant chief of operations for our department, and with a senior level driver assigned to the suppression division. The purpose of the interview was to determine what their perception of our current system was and also, if they felt resistive to the system changing. The questions were: (a) What do you think of our present accountability system? (b) Are you familiar with the NFPA recommendations with regard to accountability? (c) How would you feel about our system changing? The driver, Gary Mike Gulley, responded that we don’t use the accountability system as often as situations we encounter, it’s working, but if we get in a big situation, we’ll have problems.” He was not familiar with the NFPA standards but did favor change saying, “That is needed” (personal communication, September 22, 1998).

Assistant Chief of Operations for Beaumont Fire/Rescue, Charles Mullins, said that our system

is “inadequate and totally ineffective”. He was somewhat familiar with the NFPA recommendations. In responding to the system changing, he said, “I am 100% in favor, as long as the system is simple, understandable and can be implemented effectively” (personal communication, September 25, 1998). Both persons interviewed thought the majority of personnel would not be resistive to the system changing, if they understood the need for the change.

The final portion of this research was to use the *Planning* phase of the Change Management Model (SMOC, 1996) to prepare a plan, to develop a department wide policy.

Systematically Examine the Forces For and Against the Change

In 1992, Beaumont Fire/Rescue, in an effort to promote safety and to better manage incidents, formally adopted and implemented an incident command system. Prior to this time, considerable freelancing took place and crews did whatever was necessary to extinguish fires or control incidents. This took place with little or no supervision. Once ICS was adopted, more effort was made by upper management to do a better job of supervision in the field. The change was graciously accepted by members, however, the comfort level of personnel was hardly disturbed as participation in the ICS evolved very slowly. A force against the ICS was that upper management was not totally sold on the concept. The fact that most chief officers did not participate in ICS classes resulted in a great deal of apathy with the members.

With the appointment of a new fire chief early in 1996, there was a strong focus on the ICS. This positive force has resulted in better communication between officers and firefighters, with a noticeable reduction of freelancing. With chief officers not only participating in, but helping to instruct

ICS classes, the department has made tremendous progress with the further implementation of ICS. In casual conversations with union and non-union members alike, most seem to favor in expanding the ICS role by adopting an effective accountability system.

Select Personnel to Develop a Vision of the Organizational Change

There are 234 fully paid career members in this department. The department is made up of a communications, training, prevention, suppression and administration division. The largest division is suppression with 210 personnel. There are certain key personnel that are influential in the suppression division. They are the deputy chiefs, district chiefs and captains. One deputy chief is assigned to each of the three shifts, A, B and C. The deputy chief manages the entire shift. For departmental purposes, the city is divided into three districts. Each of the shifts have three district chiefs, who supervise eleven station captains on any given day. The captains are tasked with instructing on-duty personnel. The district chiefs might occasionally instruct classes.

For consistency, the classes to be taught are assigned by the training division. This division is made up of three personnel, a district chief, captain, and driver. This division sets the pace and overall intensity of subject matter given to personnel. Scheduling of classes are prepared here and outlines of the respective courses are delivered to all stations. The other divisions that support suppression are headed by a district chief, with the exception of administration.

The bulk of information disseminated to the members are facilitated through staff meetings, usually on a quarterly, or *as needed* basis. All deputy and district chiefs attend the meetings and pass pertinent information to the captains and their crews, later, at the station houses. The officer's meetings

have been very successful in terms of input from the staff and in helping bring about needed change to the department. All divisions would be involved in understanding the need for the change to take place, and envisioning that change. The personnel involved in this strategic model should be the ones able to develop the vision for this organizational change. Therefore, the executive/senior officer team strategy would be used to develop the vision for this organizational change.

Envision the Organizational Change to be Implemented

Part of the vision of the current administration has been to participate more in the ICS, and gaining department wide support for participation in the ensuing levels of the system. This department is one of the largest in approximately a one hundred mile radius. It is regarded by most other departments as a progressive one. There is pride among the members of being associated as such. Consequently, the members tend to be more objective than the traditional department when change is about to take place. The big picture statement of what the desired future of the organization will be, *we will be accountable*. The public and outside agencies will see more organization taking place at incidents, and the department itself will come to know that it is everyone's job to be accountable.

While this department has been fortunate to not have had death or injury linked to its present accountability system, the need to change is apparent and a comprehensive plan appears to be acceptable. A bare mention of the PAS in the current standard operating procedure, with very little support from upper management, has actually encouraged movement for a change to take place. The department, understanding that the focus of upper management has been to broaden the role of ICS, should view the change concept as positive.

Set and Evaluate Target Goals and Objectives of the Envisioned Change

The goal of wanting to adopt an improved accountability system has been made known to the department since June, 1998. Staff officers and firefighters alike, were asked to offer input with regard to a new system. A review of the literature prepared for this research, specifically with systems that could easily be adopted for modification, have led the researcher and key staff personnel to choose the *passport* system as the preferred system for this department. The objective of the envisioned change would be for implementation by April, 1999. The goals targeted for this research were:

1. Research and select a new system for accountability by December 1, 1998.
2. Develop a comprehensive standard operating procedure by January 1, 1999. Additionally, distribute the new SOP to senior level officers for review and modification, if needed, by February 1, 1999.
3. Prepare the training division to train chief officers and captains.
4. Purchase materials needed, such as additional nametags, pads, accountability boards, etc., by February 1, 1999.
5. Have all materials distributed and placed in appropriate positions by March 1, 1999.
6. Train all chief officers and station captains during February, 1999. These officers will then begin teaching the system to the rest of the members during February and March, 1999.
7. Begin implementation of the new system April 1, 1999.
8. Monitor the system and plan a senior level officer's meeting to discuss progress and make necessary changes to meet departmental needs.

At this writing, the first goal has been reached by choosing the preferred system for our organization. The SOP is being developed with no foreseeable problems in reaching the target date for completion. The local mutual aid association has been made aware of this research and is currently making plans to adopt a similar system for its use.

Assess and Select the Method(s) of Change to be Employed

The method of changing the current system will be by use of the structural method of change. Organizational roles will be modified in the IC structure. Job relationships will be changed by assigning accountability officers, sector officers, etc. Strategic personnel will be used to help encourage that change. The members are accustomed to change in this manner and should be more susceptible to a favorable consensus. Any negative comments, with regard to proposed change, is commonly delivered through one of the supervisors at the officer's meetings. The supervisor may represent one or a group of members. Modifications may then be made, for the betterment of the system, and ultimately, the services of the department.

Major changes have taken place in the past without the degree of planning that has taken place for this project. The new accountability system may well be viewed as an extension of the old system, however, it will be much more comprehensive. Integrating the new system into the ICS should flow smoothly with the proper training, as the department is now more accustomed to the ICS .

Assess and Select Techniques to Promote the Change

The predominant method of promoting change to the improved PAS system would be by use of informational techniques. The senior staff, as change managers, will demonstrate the rationale for change

by educating the employees to the NFPA standards with regard to PASs. The main point would be that the ICS is required to have a PAS as stated in NFPA 1561 (1995) in Section 2-6.1, “The incident management system shall provide for personnel accountability at the incident scene.” A safety concern to the employee should be emphasized as well, which should somewhat strengthen support of the target group. Some facilitative technique will be used as well, where managerial authority will play a role in acting as facilitator, assisting the target group to bring about the change. The members do have some sense of what they want to do and use of the new SOP, along with the training classes will help in bringing about the change.

DISCUSSION

The desire to have a PAS that was compliant with national standards was the foundation for commencing this study. Because of the complexity of the structure of many types of departments, one system is not available to meet the needs of all. “Although NFPA calls for an accountability system in its 1500 Standard...it does not specify what type of system to use” (Schaper and Gerner, 1996, p. 42). With the structure of this department in the use of the incident command system, and the personnel accountability tags that were issued to the members in 1992, the results of this study conclude adopting the passport system as the system of choice for accountability. “Consider the existing incident command system (ICS) operations. If your department already has strong relationships between crews and company officers, company officers and sector officers, and sector officers and incident commanders, you are almost there” (Jakubowski, 1998, p. 43). The ease of adapting this particular system to ours, over others reviewed in the research, was the main factor that led to the decision. The nametags

that are currently kept on bunker coats would remain as the tags used for entry into a checkpoint area. “Point of entry control officers must be strategically placed to monitor activities, crews’ movements, and 7, p. 134). An additional tag would be issued to each member for level one accountability. “These lists of individuals working together as a company generally are completed prior to an alarm, but they could be developed as firefighters arrive on the scene” (Carlson, 1992, p. 10). “In retrospect, our simple ‘riding list’ with each company officer and on the dashboard of each apparatus paid great dividends when the mode of the operation changed from offensive to defensive” (Shouldis, 1997, p. 134).

The use of a bar code system is not a realistic choice for our department. It would be cost prohibitive when considering just the materials for making the system work. Additionally, training would require a much greater amount of time, using this system, as we are not accustomed to the use of such a system. It would not realistically meet our local characteristics or conditions in relation to how this department operates. Using a system with only tags appeared to be cumbersome and not a desirable choice. “When tags are used in an attempt to track the location of personnel and their safety, experience has shown that the system becomes cumbersome” (Gerner and Schaper, 1997, p. 10).

Our current system enables the IC to determine who is at the scene. Because of the handfuls of tags the IC may receive, it would be an ordeal to find any particular tag in a short amount of time. Jarboe stated, “Unfortunately, some chiefs believe that a procedure for identifying who is on the scene is a total personnel accountability system. They are only one-third correct” (1994, p. 40). The current system, as it stands, is not compliant with the NFPA (1995) standard that states in part, “This system

shall provide a rapid accounting of all personnel at the incident scene” (p. 7). Another fact to contend with is the liability our department may face for not having an effective accountability system. “If chiefs fail to maintain accountability on a consistent and methodical basis, they may later face tragedy and perhaps charges of gross negligence” (Jarboe, 1994, p. 39).

Finally, one cannot expect any change to take place without the component of training. The emphasis in this case must include the entire department. Every division should be attuned to the SOP that deals with the PAS. “The system, including accomplishing PARs, must be integrated into training exercises to ensure maximum familiarity” (Jakubowski, 1998, p. 45). Structural roles will change with assignment of sector officers and accountability officers, which will work more effectively with drills. Compton (1998) states, “Practice complete fireground accountability within a strong command system on every incident. Critique it every time and you will achieve safer, more effective operations” (p. 29).

This organization will benefit in more than one fashion, with the adoption of clear and concise methods dealing with accountability. Problems associated with various systems will be specifically addressed in the training program. A comprehensive SOP will more clearly detail the desired outcome of the new system. The planning process has set specific target dates for the various phases for the development of this system. An awareness from all members of upcoming change, should simplify the entire process of developing and implementing the new department wide policy. The most positive impact of this change would be a safer fireground operation.

RECOMMENDATIONS

Although NFPA 1500 (1992) and NFPA 1561 (1995) recommendations are not obligatory,

standards for the personnel accountability system are clearly defined in their recommendations. If a department desires to be progressive, the accountability issue must be considered. It must integrate with the incident command system to be effective. The current personnel accountability system for Beaumont Fire/Rescue is one that neither fulfills recommendations for an effective system nor one that is adequate for this organization. It does not do what it may have been intended to do.

The problem was this department did not have an effective department wide policy with regard to accountability. The purpose of this research was to develop a plan to develop a department wide policy with regard to an effective accountability system. By reviewing the basic components that were recommended by NFPA and studying the variety of systems being used by other departments (Carlson, 1992; Compton, 1998; Davis, 1998; Howes, 1997; Jakubowski, 1998; Schaper and Gerner, 1996), a resolution to the problem has been determined.

Now that goals are in place to begin developing a policy, more research has to be conducted for specific policy statements. This may be done by reviewing the SOPs of departments that currently use the passport system of accountability. The procedures may be modified to meet our department's local conditions. Problems normally encountered, as mentioned in the literature review, will need to be addressed and included in the training material as well as training drills. An example would be freelancing (Jarboe, 1994) which will be deterred by the assignment of sector or accountability officers to track locations of firefighters. The assignment of the sector officers, to supervise personnel, is one of the basic components as recommended by NFPA standard 1500 (1992).

Fire service managers must always consider safety for its firefighters and one progressive step in

that direction would be to adopt an effective PAS. The development of such a system may begin by reviewing NFPA guidelines. Departments must work within the incident command system. It is necessary and the PAS will not work without it. Whether the department is volunteer, combination or career, the framework to build the system is there (NFPA 1500, 1992; NFPA 1561, 1995).

Modifications (Davis, 1998; Hewitt, 1993; Howes, 1997; Jakubowski, 1998) to the guidelines may be reviewed by researching the many systems that currently exist and adapting a system, or parts of systems, to fit local needs.

Once a system has been determined, using the *Planning* phase of the Change Management Model (SMOC, 1996) will help the fire service manager prepare the organization for the change. Setting and evaluating the goals and objectives will be the most critical task in this phase. They must match the envisioned change and be consistent with organizational change requirements.

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